
APPENDIX 4

IUCN CONSERVATION ISSUES & RANKING CRITERIA



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Appendix 4.A IUCN Conservation Issues

IUCN Level 1	IUCN Level 2	IUCN Level 3	Description/Examples/Notes
Residential and Commercial Development	Housing and Urban Areas	List the type of development	Human cities, towns and settlements including non-housing development typically integrated with housing
	Commercial and Industrial Areas	List the type of development	Industrial and other non-energy commercial development and operations
	Tourism and Recreational Areas	List the type of development	Pressures from tourism and recreational activities (e.g., recreation areas, off-road vehicles, spelunking)
Agriculture and Aquaculture	Annual and Perennial Non-timber crops	Shifting Agriculture	Growing and harvesting trees and other woody vegetation for timber, fiber or fuel
		Small-holder Farming	
		Agro-industry	
		Scale Unknown	
	Wood and Pulp Plantations	Small Holder	
		Agro-industry Plantations	
		Scale Unknown	
	Livestock Farming and Ranching	Nomadic Grazing	Crops planted for food, fodder, fiber, fuel or other uses
		Small-holder Grazing	
		Agro-industry Grazing	
		Scale Unknown	
	Marine and Freshwater Aquaculture	Subsistence/Artisinal Aquaculture	Domestic terrestrial animals raised in one location on farmed or non-local resources (farming); also domestic or semi-domesticated animals allowed to roam in the wild and supported by natural habitats (ranching)

Appendix 4.A-B IUCN Conservation Issues & Ranking Criteria

IUCN Level 1	IUCN Level 2	IUCN Level 3	Description/Examples/Notes
		Industrial Aquaculture	
		Scale Unknown	
Energy Production and Mining	Oil and Gas Drilling	List the specific type of resources and production method	Threats from exploring for, developing, producing and distributing energy resources
		List the specific type of resources and production method	Drilling and distribution of petroleum and other liquid hydrocarbons
	Mining and Quarrying	List the specific type of resource and production method	Hydrofracturing and other natural gas extraction and distribution processes
	Renewable Energy	List the specific type of resource and production method	Removal and distribution of minerals and rocks, limited to energy production
		List the specific type of resource and production method	Generating and distributing power from the wind
		List the specific type of resource and production method	Generating and distributing power from the sun
Transportation and Service Corridors	Roads and Railroads	List the specific type of road	Non-energy transportation corridors and the vehicles that use them
	Utility and Service Lines	List the specific type of utility line	
	Shipping Lanes	List the specific type of shipping lane	
	Flight Paths	List the specific type of flight path	
Biological Resource Use	Hunting and Collecting Terrestrial Animals	Intentional Use	Threats from overharvesting biological resources for commercial, recreation, subsistence, research or cultural purposes; including both deliberate and unintentional harvesting beyond sustainable levels
		Unintentional effects	
		Persecution/Control	
		Motivation Unknown	
	Gathering Terrestrial Plants	Intentional Use	Overharvesting terrestrial wild animals or animal products; includes accidental mortality/bycatch
		Unintentional effects	

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IUCN Level 1	IUCN Level 2	IUCN Level 3	Description/Examples/Notes
		Persecution/Control	
		Motivation Unknown	
	Logging and Wood Harvesting	Intentional Use (subsistence/small scale)	Threats from farming and ranching as a result of agricultural expansion and intensification, including silviculture, mariculture and aquaculture
		Intentional Use (large scale)	
		Unintentional effects (subsistence/small scale)	
		Unintentional effects (large scale)	
		Motivation Unknown	
	Fishing and Harvesting of Aquatic Resources	Intentional Use (subsistence/small scale)	Overharvesting plants, fungi, and other non-timber/non-animal products
		Intentional Use (large scale)	
		Unintentional effects (subsistence/small scale)	
		Unintentional effects (large scale)	
		Persecution/Control	
		Motivation Unknown	
Human Intrusions and Disturbance	Recreational Activities	List the specific activity	
	War, Civil Unrest and Military Exercises	List the specific activity	
	Work and Other Activities	List the specific activity	
Natural Systems Modifications	Fire and Fire Suppression	Increase in Fire Frequency/Intensity	
		Suppression of Fire Frequency/Intensity	
		Trend Unknown	
	Dams and Water Management/Use	Abstraction of Surface Water (domestic use)	
		Large Dams	
		Dams (size unknown)	
		Abstraction of Surface Water (commercial use)	

Appendix 4.A-B IUCN Conservation Issues & Ranking Criteria

IUCN Level 1	IUCN Level 2	IUCN Level 3	Description/Examples/Notes
		Abstraction of Surface Water (agricultural use)	
		Abstraction of Surface Water (unknown use)	
		Abstraction of Ground Water (domestic use)	
		Abstraction of Ground Water (commercial use)	
		Abstraction of Ground Water (agricultural use)	
		Abstraction of Ground Water (unknown use)	
		Small Dams	
	Other Ecosystem Modifications	List the specific source of alteration	
Invasive and Other Problematic Species, Genes and Diseases	Invasive Non-native/Alien Species/Diseases	Unspecified Species	Threats from non-native and native plants, animals, pathogens/microbes, or genetic materials that have or are predicted to have harmful effects on biodiversity following their introduction, spread and/or increase in abundance
		Named Species	
	Problematic Native Species/Diseases	Unspecified Species	Harmful plants, animals, pathogens and other microbes not originally found within the ecosystem(s) in question and directly or indirectly introduced and spread into it by human activities
		Named Species	
	Introduced Genetic Material	List the specific material or organism	Harmful plants, animals, or pathogens and other microbes that are originally found within the ecosystem(s) in question, but have become out-of-balance or released directly or indirectly due to human activities
	Problematic Species/Diseases of Unknown Origin	Unspecified Species	

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IUCN Level 1	IUCN Level 2	IUCN Level 3	Description/Examples/Notes
		Named Species	
	Viral/Prion-induced Diseases	Unspecified Species (Disease)	
		Named Species (Disease)	
	Diseases of Unknown Cause		
Pollution	Domestic and Urban Waste Water	Sewage	
		Run-off	
		Type Unknown	
	Industrial and Military Effluents	Oil Spills	
		Seepage from Mining	
		Type Unknown	
	Agricultural and Forestry Effluents	Nutrient Loads	
		Soil Erosion and Sedimentation	
		Herbicides and Pesticides	
		Type Unknown	
	Garbage and Solid Waste	List the type, source, and if possible, the specific pollutants of concern	
	Air-Bourne Pollutants	Acid Rain	
		Smog	
		Ozone	
		Type Unknown	
	Excess Energy	Light Pollution	
		Thermal Pollution	
		Noise Pollution	
		Type Unknown	
Geological Events	Volcanos	List the specific problem	Extreme precipitation and/or wind events
	Earthquake/Tsunamis	List the specific problem	
	Avalanches/Landslides	List the specific problem	
Climate Change and Severe Weather	Habitat Shifting or Alteration	List the specific problem	Threats from long-term climatic changes or other severe weather/geological events that or potentially could eliminate a vulnerable species or habitat
	Droughts	List the specific problem	Major changes in habitat composition and location

Appendix 4.A-B IUCN Conservation Issues & Ranking Criteria

IUCN Level 1	IUCN Level 2	IUCN Level 3	Description/Examples/Notes
	Temperature Extremes	List the specific problem	Periods in which rainfall falls below the normal range of variation
	Storms and Flooding	List the specific problem	Periods in which temperatures exceed or go below the normal range of variation
	Sea Level Rise	List the specific problem	
Resource Management Needs	Resource information collection needs	Lack of initial baseline inventory	
		Lack of up-to-date existing information	
		Need to answer research question	
		Need to develop new technique	
	Management decision needs	Need to provide technical assistance	
		Need to conduct environmental reviews	
		Lack of fish, wildlife and/or habitat planning	
Recreation Needs	Training needs	Need for more and/or improved training in outdoor recreational methods	
		Need to improve safety/ethics in outdoor recreation	
	Public access needs	Need for more public access to areas or facilities for outdoor recreation	
		Lack of maintenance/improvements on areas or facilities for outdoor recreation	
	Utilization needs	Lack of information on how fish and wildlife resources are utilized	

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IUCN Level 1	IUCN Level 2	IUCN Level 3	Description/Examples/Notes
		Lack of information on how outdoor recreation areas and facilities are utilized	
		Lack of information on locations of fish and wildlife resources and public access areas and facilities	
		Need to maintain or increase recruitment and/or retention of outdoor recreationalists	
		Need to maintain or increase supply of fish to support fishing	
Education/ Outreach Needs	Education needs		
		Need for improved knowledge of fish and wildlife and their habitats	
		Lack of aquatic resources and wildlife education facilities	
		Need for improved knowledge of WSFR grant programs and their accomplishments	
	Outreach needs	Need to develop and/or maintain a broad base of support for agency goals and objectives	
		Need to maintain and/or increase constituent base	
Administrative Needs			
	Infrastructure needs	Need to maintain or improve fish and wildlife agency administrative facilities	

Appendix 4.A-B IUCN Conservation Issues & Ranking Criteria

IUCN Level 1	IUCN Level 2	IUCN Level 3	Description/Examples/Notes
		Need to maintain or improve information management systems	
	Organizational/program planning needs	Need for agency organizational planning to meet goals and objectives	
		Need for WSFR program/subprogram planning to meet goals and objectives	
	Coordination/administration needs	Need for agency administrative support for effective operations	
		Need for coordination for effective program/project management	

Appendix 4.B Conservation Issue Ranking Criteria (based on NE Lexicon)

<u>Characteristic</u>	<u>Explanation</u>	<u>High Impact (1)</u>	<u>Moderate Impact (2)</u>	<u>Low Impact (3)</u>
Severity		Severe: Degree of ecological change is major	Moderate Severity: Degree of ecological change is substantial	Slight Severity: Degree of ecological change is minor
Reversability	Consider the likelihood of reversing the impacts within 10 years.	Irreversible: Effects of the threat are irreversible	Reversible with difficulty: Effects of the threat may be reversed but costs or logistics make action impractical	Reversible: Effects of the threat can be reversed by proven actions
Immediacy	This characteristic assesses the time scale over which impacts of the issue will be observable.	Immediate: Effects of the threat are immediately observable (current or existing)	Near-term: Effects of the threat are expected within the next 1 - 10 years	Long-term: Effects of the threat are expected in 10-100 years given known ecosystem interactions or compounding threats
Spatial Extent	Consider the impact of the issue within 10 years.	Pervasive: (>50%) A large portion of the habitat or population is negatively impacted by the threat.	Dispersed or Patchy: (10-50%)	Localized: (<10%) A small portion of the habitat or population is negatively impacted by the threat.
Certainty		High Certainty: Sufficient information about the threat and ecological responses to it is available	Moderate Certainty: some information describing the threat and ecological responses to it is available, but many questions remain	Low Certainty: threat is poorly understood, data are insufficient, or the response to threat is poorly understood
Likelihood	Consider impact of the issue within 10 years. This characteristic is used to assess the certainty surrounding the issue and its impact.	Occurring: Effects of the threat are already observable (100% chance)	Likely: Effects of threat are likely to occur (30-99% chance)	Unlikely: Effects of the threat are unlikely to occur (less than 30% chance)